

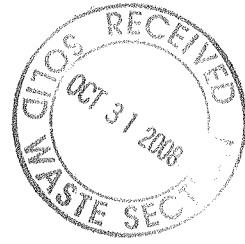


Clayton, Sr., P.E., Inc.
Civil & Environmental Engineering

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<i>Jimith Barber</i>	12/19/08	6494

October 29, 2008

Jaclynne Drummond
Compliance Hydrogeologist
NC Department of Environment and Natural Resources
Division of Waste Management – Solid Waste Section
1646 Mail Service Center
Raleigh, NC 27699-1646



**RE: Permit Amendment Request – Corrective Action Plan
Dunn-Erwin Landfill Facility
SWS Permit No. 43-02
Harnett County, NC**

Ms. Drummond,

On behalf of Harnett County, this letter is to serve as the official request for a permit amendment to initiate the Corrective Action Plan (CAP) for remediation at the Dunn-Erwin Landfill Facility (DELF). The County understands there will be a \$9,000 fee associated with the amendment.

Corrective Action Plan Summary

Per our letter dated October 15, 2008, phytoremediation was chosen as the corrective technology for the DELF. Phytoremediation as with any technology will require a scaled down pilot study to determine if it is an effective treatment technology for the entire site. Due to the nature of the technology we expect the pilot study to take approximately three years to provide enough growing seasons for the trees to become effective in treating and controlling the contaminant plume.

We have reviewed the current and historical statistical analysis data for the DELF contaminant plume area and have selected a preliminary layout of the phytoremediation pilot study area which is shown on the attached drawings (Contaminant Plume and Pilot Study) The Contaminant Plume drawing shows the general layout of the CAP and pilot study within the DELF and the Pilot Study drawing is a blow-up of the pilot study plot which demonstrates the proposed tree planting plan and new well/piezometer locations.

After research of several documented phytoremediation projects and discussions with a tree nursery regarding planting techniques, we have selected the hybrid poplar as the tree of choice for the phytoremediation project. The aquifer of concern is approximately 8-9 feet below ground surface on average along the projected project area. The hybrid poplars will be

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bought as 7 to 9-foot poles (cuttings) which can be planted their entire length within the soil. Per discussion with supply nurseries, rooted stock does not guarantee a full growing season of benefit for the extra cost. The poplars will root along the entire depth of the pole and also create a taproot to further reach the groundwater.

Within the next two weeks C.T. Clayton, Sr., P.E., Inc. (CTC) will submit a complete CAP for SWS review. The CAP will include a history and description of the contaminant plume. The pilot study will be described in detail with construction drawings and details. The proposed monitoring/sampling plan will be presented for approval. A maintenance plan for the pilot study will be included as well as an estimated cost of the project. The following is a proposed schedule for submittals and project objectives:

Number	Action	Proposed Schedule
1.	CTC will submit preliminary CAP to SWS	November 12, 2008
2.	CTC will conduct an initial round of groundwater organics testing to verify the location of the current plume limits. CTC will also perform agronomic soils testing to verify soil amendments required & application rates for tree growth.	November 28, 2008
3.	CTC will re-align/re-adjust pilot study area per the groundwater testing results	December 5, 2008
4.	CTC will submit finalized CAP to SWS for approval	December 12, 2008
5.	Harnett County will order trees / soil amendments	* within one week of SWS approval depending on availability
6.	CTC will coordinate new well and piezometer installations within pilot study area. CTC will design irrigation system for pilot study.	* within one week of SWS approval
7.	Harnett County will plant trees within pilot study area	* upon tree delivery
8.	Conduct pilot study and associated monitoring for assessment of CAP impact and effectiveness	March 31 thru Oct 31, 20012 (3 full growing seasons)
9.	Adjust CAP design for full implementation based upon CAP pilot study results	November thru Feb. 2013
10.	Implement full CAP design and associated groundwater monitoring	March – April 2013
11.	Estimated completion of CAP will be determined upon analysis of the Pilot Study in late 2012	Date unknown*



Upon review of the CAP summary above and of the attached plans, any comments generated would be welcome in the next two weeks prior to our submittal of the complete CAP. Please feel free to contact me directly at 910-897-7070 or tyrus@ctclayton.com to discuss this issue further.

Sincerely,

A handwritten signature in black ink, appearing to read 'C. Tyrus Clayton Jr.', is written over a horizontal line.

C. Tyrus Clayton Jr., P.E.

/attachment

cc: Jerry Blanchard, General Services Manager, Harnett County
Geoff Little, NCDENR-DWM-SWS
Zinith Barbee, NCDENR-DWM-SWS